

25X1 Declassified in Part - Sanitized Copy Approved for Release 2012/10/18 : CIA-RDP79B00873A000800010041-1

DDI-1213-70

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MEMORANDUM FOR: Assistant Deputy Director for Intelligence

1. This memorandum requests approval for the commitment of R&D funds for a change-in-scope to contract task 10. The specific request is stated in paragraph 7.

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2. NPIC currently has a cost-plus-fixed-fee contract with to fabricate a Target Indexing Device (TID). This is a part of the Automatic Target Recognition Program, Phase IV effort totaling The TID will provide NPIC with the capability of rapidly and automatically scanning KH-9 film, specifying those targets that are cloud covered or cloud free. Also, when operating in the general analysis mode, the device will permit an accurate determination of the percent of cloud cover on an area basis.

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An integral part of the TID is a Honeywell DDP 516 computer which serves as the "controller" of the system and also makes the statistical yes-no decisions concerning cloud cover. This computer requires tape inputs of ephemeris data and provides tape outputs of cloud cover decisions over specific targets or areas. When the program was initiated, there was an element of technical risk as to the degree of success of the TID. Therefore, a relatively inexpensive paper tape unit was purchased in order to minimize the initial cost of checking out the system, with conversion to magnetic tape delayed until a later date. Since then, the KH-9 imaging characteristics have been further defined, it has become apparent that the paper tape units are too slow to deal with the complex inputs involved. In addition, proven decision accuracies and the rate of technical achievement on the equipment have virtually eliminated the previous risk and it now seems prudent to convert to magnetic tape immediately. version at this time will obviate the significant programming costs that a retrofit would entail. Paper tape inputs and outputs for this application have several operational disadvantages as compared to

GROUP 1
Excluded from automatic downgrading and declassification

magnetic tape:

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SUBJEO	CT: Request for Approval of Change-in-Scope to Contract  10, with the  Amounting to from FY-1970 R&D Funds	sk 25X1 25X1 25X1
	a. Operational requirements dictate a film speed of 100 f.p.m. for the TID. Because of the volume of data required for	
	making statistical decisions, the maximum speed obtainable with the paper tape unit is approximately 20 f.p.m.	
	b. Because paper tape units have limited reading and writing speed and capacity, the cloud cover decision in the target index mode cannot be stored with the target identification number in or operation, even at the unacceptable rate of 20 ft/min. Consequent	ing ne

- speed and capacity, the cloud cover decision in the target indexing mode cannot be stored with the target identification number in one operation, even at the unacceptable rate of 20 ft/min. Consequently, a second operation is required to provide a new tape containing both the cloud cover decisions and the target number. With the rapid reading and writing rates of magnetic tapes, both the decisions and target numbers and/or coordinates could be recorded simultaneously as the film is processed, eliminating the need for a second operation. Also, the decisions would be immediately available for data analysis.
- c. If the TID retains the paper tape unit, all inputs to the TID from the computer facility will have to be converted from magnetic tape to paper tape. Likewise, all paper tape outputs of the TID will have to be converted to magnetic tape so that existing computer facilities at NPIC can be utilized.
- 4. RED has investigated the types and costs of magnetic tape units that will eliminate the disadvantages of the paper tape unit and still remain compatible with the existing computer facilities. It is recommended that two Honeywell 516-4142, seven track units (including controller) be purchased. These magnetic tape units are standard equipment with no technical risks involved.
- 5. As the primary contractor on the TID, would be the logical one to acquire and integrate the magnetic tape units and controller. is the only contractor that can perform the above operation in time to meet the scheduled delivery date (September 1970) for the completed TID.
- 6. The security classification will be the same as the original contract. The association is SECRET, the title is UNCLASSIFIED, and the work is SECRET.

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SUBJECT: Request for Approval of Change-in-Scope to	
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Amounting to from FY-1970 R&D Funds	
7. It is requested that approval be granted for a to in an amount not to exceed ar	a change-in-scope ad to be charged
against FY-1970 funds.	
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ARTHUR C. LU Director	
National Photographic Int	erpretation Cente
	<b>5 MAY 1970</b>
APPROVED:  Assistant Deputy Director for Intelligence	Date
Assistant Deputy Director for interrigence	Date
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